



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,680	04/13/2006	Yasuhiro Watanabe	0707590043	4618
20277 7590 11/19/2008 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096				
EXAMINER ZHANG, YUANDA				
ART UNIT 2828		PAPER NUMBER		
MAIL DATE 11/19/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/575,680

**Applicant(s)**

WATANABE ET AL.

**Examiner**

YUANDA ZHANG

**Art Unit**

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.
2. In response to Applicant's argument of claim 1, the Applicant has argued that the electrode pads 13a are disposed to extend to the sides of the first and second diodes, and they do not extend behind the first and second diodes. The Examiner respectfully disagrees. As stated in previous Office action and also admitted by the Applicant, the lead 23 is connected to both of the first and second laser diodes or the PIN diode 12. As shown in figure 8A, the logical configuration for the lead 23 to be connected to both of the first and the second laser diodes is that the electrode 13a must extend backward; therefore, Abe inherently discloses the limitations of "the first and second electrode pads are formed to extend farther behind the two-beam semiconductor laser element, and wire-bonded behind the two-beam semiconductor laser element."

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US PG Pub 2002/0021725 A1) in view of Ikeda (US PG Pub 2001/0050531 A1).

5. In re claim 1, Abe discloses a two-beam semiconductor laser device comprising: a two-beam semiconductor element (laser diode 14a, shown in figure 7) having a first and a second semiconductor laser elements (LD 1 and LD2) that can be driven independently and that are formed integrally on a substrate (30); and a submount (13) having, mounted on a front part thereof, the two-beam semiconductor laser element with a light-emitting face (active layer 33 for LD1 and active layer 38 for LD2) thereof directed forward and having a first and a second electrode pads (13a) connected to electrodes of the first and second semiconductor laser elements by being kept in contact therewith, wherein the first and second electrode pads are formed to extend farther behind the two-beam semiconductor laser element (it's inherent that electrode 13a has been extended behind the laser diode 14a as lead 23 is taught to be connected to both the first and the second laser diodes, shown in figure 8A), and are wire-bonded behind the two-beam semiconductor laser element (shown in figure 8A) (paragraph [0131] – paragraph [137]). Abe does not disclose wherein no photodetector is provided the two-beam semiconductor laser element on the submount. However, with reference to figure 5, Ikeda discloses a two-beam semiconductor laser device (10A) with no photo-detector provided on the submount (supporting base 11) with the semiconductor laser element (photo-receiving device 118 provided outside of the laser package 111, see figure 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to omit the photodetector element behind the two-beam semiconductor laser element on the submount, since it has been held that omission of an element and its function in a combination where the remaining elements perform the

same function as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

6. In re claim 2, Abe discloses wherein the first and second electrode pads are wire-bonded at a rear end of the submount (see figure 8A).

7. In re claim 3, Abe has disclosed the claimed invention except wherein a distance from the rear end of the two-beam semiconductor laser element to a position where the first and second electrode pads are wire-bonded is 300  $\mu\text{m}$  or shorter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the distance between the electrode pad that are wire-bonded and rear end of the two-bam semiconductor laser element of Abe with a range of 300  $\mu\text{m}$  or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 MPEP 2144.05 (II-A)

8. In re claim 4, Abe discloses wherein a lateral length of the submount is 400  $\mu\text{m}$  or more but 700  $\mu\text{m}$  or less (Figure 8B has disclosed that the two emitting point is 100  $\mu\text{m}$  apart which is roughly less  $\frac{1}{4}$  of the lateral length or width of the submount; therefore, the submount is more than about 400  $\mu\text{m}$ ).

9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US PG Pub 2002/0021725 A1) in view of Honda et al (US Patent 6,885,076 B2).

10. In re claim 5, Abe has disclosed the claimed invention above except a package composed of a frame and a resin member. However, Honda et al disclose a

semiconductor laser package composed of individual lead leads (lead frame 2) are put together by the insulating resin member (5) as to form a lead frame package (col. 4 lines 19-26). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the semiconductor laser device of Abe with a package composed of a frame and a resin member as taught by Honda et al in order to obtain protection for the laser element.

11. In re claim 6, Honda et al disclose wherein the two-beam semiconductor laser device is built as a three-terminal two-beam semiconductor laser device having three terminals (lead frame 2 containing three terminals 7, 6b and 8).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUANDA ZHANG whose telephone number is (571)270-1439. The examiner can normally be reached on Monday-Thursday, 7:30am-6:00p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YZ/  
11/12/08

/Minsun Harvey/  
Supervisory Patent Examiner, Art Unit 2828